Remarks/Arguments

Claims 1-21 are now pending in this application. In the January 16, 2007 Office Action, Claim 1 is rejected under 35 U.S.C. 112, second paragraph. Claims 1, and 14-18 are rejected under 35 U.S.C. 101. Claims 1-4, 9-15, and 19-20 were rejected under 35 U.S.C. 102(b) as being anticipated by Hartung et al., U.S. Patent No. 5,920,709 (hereinafter "*Hartung*"). Claims 5-8, 16-18 and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Hartung* and further in view of Nakamura, U.S. Patent No. 7,046,519 (hereinafter "*Nakamura*").

By this amendment, claims 3, 15, and 20 have been cancelled. Claims 1, 4, 14, 19, and 21 have been amended. Following entry of this amendment, claims 1-2. 5-14. 16-19, and 21 will be pending in the present application. For the reasons set forth below, the applicants respectfully request reconsideration and immediate allowance of this application.

Claim Rejections Under 35 U.S.C. 112

In the January 16, 2007 Office Action, claim 1 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claims the subject matter which applicant regards as the invention. Claim 1 has been amended to recite, *inter alia*, "determining whether the IDE drive is connected based on a value read from the status register destination." It is respectfully submitted that amended claim 1 fully complies with 35 U.S.C. 112, second paragraph. Withdrawal of the claim rejection under 35 U.S.C. 112, second paragraph is respectfully requested.

Claim Rejections Under 35 U.S.C. 101

Claim 1

In the January 16, 2007 Office Action, claim 1 is rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. Claim 1 has been amended to recite, *inter alia*, "determining whether the IDE drive is connected based on a value read from the status register destination." It is respectfully submitted that amended claim 1 fully complies with 35 U.S.C. 101. Withdrawal of the rejection of claim 1 under 35 U.S.C. 101 is respectfully requested.

Claims 14-18

In the January 16, 2007 Office Action, claims 14-18 were rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 14 has been amended to claim a "computer program product comprising a computer storage medium...." As stated in page 5, lines 15-19 of the instant application, "[b]y way of example, and not limitation, computer-readable media may comprise computer storage media and communication media. Computer storage media includes volatile and non-volatile, removable and non-removable media implemented in any method or technology for storage of information such as computer-readable instructions, data structures, program modules or other data." Accordingly, the applicants respectfully submit that claims 14-18 claim statutory subject matter and fully comply with 35 U.S.C. 101. Withdrawal of the rejection of claims 14-18 under 35 U.S.C. 101 is respectfully requested.

Claim Rejections Under 35 U.S.C. 102(e)

Claims 1 and 3

In the January 16, 2007 Office Action, claims 1 and 3 were rejected under 35 U.S.C. 102(b) as being anticipated by *Hartung*. Claim 1 has been amended to include the recitations of cancelled claim 3. Referring to amended claim 1, the Office Action contends that *Hartung* at col. 11, lines 42-45 anticipates "in response to the data read from the drive head register destination not matching the data written to the drive head register destination, returning that the IDE drive is not connected to an intelligent drive electronics channel." (Paper No. 20061228 at p. 5, no. 12). The applicants respectfully disagree.

Hartung at col. 11, lines 42-45 discloses that "[i]f nest driver 230 sees a string of hexadecimal "F" values on any of IDE buses 63, nest driver 230 realizes that no device is connected to such bus 63." In other words, the recited portion of *Hartung* teaches that if the value the nest driver sees on the IDE bus matches a string of hexadecimal "F" values, then the nest driver realizes that no device is connected to the bus. Thus, *Hartung* does not teach that "in response to the data read from the drive head register destination not matching the data written to the drive head register destination, returning that the IDE drive is not connected to an intelligent drive electronics channel," as claimed in amended claim 1.

Further, the Office Action contends that *Hartung* at col. 1, lines 55-60 anticipates "writing data to a drive head register destination for the IDE drive." (Paper No. 20061228 at p. 5, no. 12). However, the recited portion of *Hartung* discloses that "[w]hen the IDE device is connected to the IDE bus, the contents of the set of registers is [sic] loaded into a task file of the IDE device. After the IDE device is connected to the IDE bus, the Nest continues to monitor the status of the IDE bus with the set of registers in the Nest serving as a phantom task file corresponding to the device task file." It is unclear how the recited portion of *Hartung* teaches or suggests "writing data to a drive head destination for the IDE drive," as claimed in amended claim 1.

Claim 1 has been amended to claim, *inter alia*, "in response to writing the data to the drive head register destination, reading the drive head register destination." Therefore, when "detecting whether the data read from the drive head register destination matches the data written to the drive head register destination," also as claimed in claim 1, the drive head register destination is read in response to writing the data to the drive head register destination. The sequence of writing and then reading is noted because, as stated on page 9, lines 19-22 of the instant application, "[w]hen IDE devices are not present, what was written to the device head register destination 202 ... is not decoded and reflected in a response from the IDE device, thus causing the data comparison not to match." It is respectfully submitted that *Hartung* does not disclose "writing data to a drive head destination for the IDE drive," "in response to writing the data to the drive head register destination, reading the drive head register destination," and "detecting whether the data read from the drive head register destination matches the data written to the drive head register destination," as claimed in amended claim 1.

Accordingly, *Hartung* does not teach, suggest, or describe each and every element of amended independent claim 1. The applicants therefore submit that this claim is in condition for immediate allowance. The applicants further submit that claims 2 and 4-18 are also patentable because they contain recitations not taught by *Hartung* and because these claims depend from allowable independent claim 1. Accordingly, the applicants submit that claims 1-2 and 4-18 are in condition for immediate allowance.

Claim 14

In the January 16, 2007 Office Action, claims 14 and 15 were rejected under 35 U.S.C. 102(b) as being anticipated by *Hartung*. Claim 14 has been amended to include the recitations of cancelled claim 15. Referring to amended claim 14, the Office Action contends that *Hartung* at col. 11, lines 42-45 anticipates "in response to the data read from the drive head register destination not matching the data written to the drive head register destination, return a first indication that the IDE drive is not connected to the intelligent drive electronics channel." (Paper No. 20061228 at p. 6, no. 19 and p. 5, no. 12). The applicants respectfully disagree.

Hartung at col. 11, lines 42-45 discloses that "[i]f nest driver 230 sees a string of hexadecimal "F" values on any of IDE buses 63, nest driver 230 realizes that no device is connected to such bus 63." In other words, the recited portion of *Hartung* teaches that if the value the nest driver sees on the IDE bus matches a string of hexadecimal "F" values, then the nest driver realizes that no device is connected to the bus. Thus, *Hartung* does not teach that "in response to the data read from the drive head register destination not matching the data written to the drive head register destination, return a first indication that the IDE drive is not connected to the intelligent drive electronics channel," as claimed in amended claim 14.

Further, the Office Action contends that *Hartung* at col. 1, lines 55-60 anticipates "writing data to a drive head register destination for the IDE drive...." (Paper No. 20061228 at p. 6, no. 19 and p. 5, no. 12). However, the recited portion of *Hartung* discloses that "[w]hen the IDE device is connected to the IDE bus, the contents of the set of registers is [sic] loaded into a task file of the IDE device. After the IDE device is connected to the IDE bus, the Nest continues to monitor the status of the IDE bus with the set of registers in the Nest serving as a phantom task file corresponding to the device task file." It is unclear how the recited portion of *Hartung* teaches or suggests "writing data to a drive head destination for the IDE drive...," as claimed in amended claim 14.

Claim 14 has been amended to claim, *inter alia*, "in response to writing the data to the drive head register destination, read the drive head register destination." Therefore, when "detect[ing] whether the data read from the drive head register destination matches the data written to the drive head register destination," also as claimed in claim 14, the drive head register destination is read in response to writing the data to the drive head register destination. The sequence of writing and then reading is noted because, as stated on page 9, lines 19-22 of the

instant application, "[w]hen IDE devices are not present, what was written to the device head register destination 202 … is not decoded and reflected in a response from the IDE device, thus causing the data comparison not to match." It is respectfully submitted that *Hartung* does not disclose "writing data to a drive head register destination for the IDE drive," "in response to writing the data to the drive head register destination, read the drive head register destination," and "detect[ing] whether the data read from the drive head register destination matches the data written to the drive head register destination," as claimed in amended claim 14.

Accordingly, *Hartung* does not teach, suggest, or describe each and every element of amended independent claim 14. The applicants therefore submit that this claim is in condition for immediate allowance. The applicants further submit that claims 16-18 are also patentable because they contain recitations not taught by *Hartung* and because these claims depend from allowable independent claim 14. Accordingly, the applicants submit that claims 14 and 16-18 are in condition for immediate allowance.

Claim 19

In the January 16, 2007 Office Action, claims 19 and 20 were rejected under 35 U.S.C. 102(b) as being anticipated by *Hartung*. Claim 19 has been amended to include the recitations of cancelled claim 20. Referring to amended claim 19, the Office Action contends that *Hartung* at col. 11, lines 42-45 anticipates "in response to the data read from the drive head register destination not matching the data written to the drive head register destination, return a second indication that the IDE drive is not connected to the intelligent drive electronics channel." (Paper No. 20061228 at p. 6, no. 19 and p. 5, no. 12). The applicants respectfully disagree.

Hartung at col. 11, lines 42-45 discloses that "[i]f nest driver 230 sees a string of hexadecimal "F" values on any of IDE buses 63, nest driver 230 realizes that no device is connected to such bus 63." In other words, the recited portion of *Hartung* teaches that if the value the nest driver sees on the IDE bus matches a string of hexadecimal "F" values, then the nest driver realizes that no device is connected to the bus. Thus, *Hartung* does not teach that "in response to the data read from the drive head register destination not matching the data written to the drive head register destination, return a first indication that the IDE drive is not connected to the intelligent drive electronics channel," as claimed in amended claim 19.

Further, the Office Action contends that *Hartung* at col. 1, lines 55-60 anticipates "writing data to a drive head register destination for the IDE drive...." (Paper No. 20061228 at p. 6, no. 19 and p. 5, no. 12). However, the recited portion of *Hartung* discloses that "[w]hen the IDE device is connected to the IDE bus, the contents of the set of registers is [sic] loaded into a task file of the IDE device. After the IDE device is connected to the IDE bus, the Nest continues to monitor the status of the IDE bus with the set of registers in the Nest serving as a phantom task file corresponding to the device task file." It is unclear how the recited portion of *Hartung* teaches or suggests "writing data to a drive head destination for the IDE drive...," as claimed in amended claim 19.

Claim 19 has been amended to claim, *inter alia*, "in response to writing the data to the drive head register destination, read the drive head register destination." Therefore, when "detect[ing] whether the data read from the drive head register destination matches the data written to the drive head register destination," also as claimed in claim 19, the drive head register destination is read in response to writing the data to the drive head register destination. The sequence of writing and then reading is noted because, as stated on page 9, lines 19-22 of the instant application, "[w]hen IDE devices are not present, what was written to the device head register destination 202 ... is not decoded and reflected in a response from the IDE device, thus causing the data comparison not to match." It is respectfully submitted that *Hartung* does not disclose "writing data to a drive head register destination for the IDE drive," "in response to writing the data to the drive head register destination, read the drive head register destination," and "detect[ing] whether the data read from the drive head register destination matches the data written to the drive head register destination," as claimed in amended claim 19.

Accordingly, *Hartung* does not teach, suggest, or describe each and every element of amended independent claim 19. The applicants therefore submit that this claim is in condition for immediate allowance. The applicants further submit that claim 21 is also patentable because it contains recitations not taught by *Hartung* and because the claim depends from allowable independent claim 19. Accordingly, the applicants submit that claims 19 and 21 are in condition for immediate allowance.

Claim Rejections Under 35 U.S.C. 103(a)

Claims 5, 16, and 21

In the January 16, 2007 Office Action, claims 5, 16, and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Hartung* in view of *Nakamura*. Without addressing each and every recitation of claims 5, 16, and 21, the Office Action conclusorily contends that *Nakamura* at col. 8, lines 52-64 "teaches the above limitation of having a cylinder low register and cylinder high register and comparing the two to determine whether a predefined value exists." (Paper No. 20061228 at p. 7, no. 22). The applicants respectfully disagree.

It is first noted that the Office Action appears to misinterpret the claims. Nothing in claims 5, 16, and 21 claims that the cylinder low register and the cylinder high register are compared "to determine whether a predefined value exists." Further, apart from containing similar terms "cylinder low register" and "cylinder high register," *Nakamura* provides no other teachings even remotely related to claims 5, 16, and 21. The recited portion of *Nakamura* simply shows an exemplary parameter set contained in a register group of a controller. *Nakamura* teaches that parameters may be set in the cylinder low register and the cylinder high register, among other registers in the PC card ATA standards. (*Nakamura* at col. 6, line 62 to col. 7, line 4 and col. 8, lines 52-64). *Nakamura* makes no other mention of the cylinder low register or the cylinder high register throughout the reference, and teaches and suggests none of the recitations of claim 5. It is unclear how the Office Action comes to the conclusion from the disclosure of *Nakamura* that "*Nakamura* teaches the above limitation of having a cylinder low register and cylinder high register and comparing the two to determine whether a predefined value exists." (Paper No. 20061228 at p. 7, no. 22). Further, *Nakamura* appears to be unrelated to detecting whether an IDE drive is connected to an intelligent drive electronics channel within a computer, according to the preambles of claims 1, 14, and 19, from which claims 5, 16, and 21 depend respectively.

With regards to claim 5, it is respectfully submitted that neither *Hartung* nor *Nakamura*, alone or in combination, teaches or suggests "upon the data read from the status register destination having the first predefined value, reading a cylinder low register destination and a cylinder high register destination of the drive," "detecting whether data read from the cylinder low register destination and the cylinder high register destination matches a predefined signature," and "in response to the data read from cylinder low register destination and the

cylinder high register destination matching the predefined signature, returning that the IDE drive is connected to the intelligent drive electronics channel."

With regards to claims 16 and 21, it is respectfully submitted that neither *Hartung* nor *Nakamura*, alone or in combination, teaches or suggests "upon the data read from the status register destination having the first predefined value, read a cylinder low register destination and a cylinder high register destination for the IDE drive," "detect whether data read from the cylinder low register destination and the cylinder high register destination matches a predefined signature," and "in response to the data read from cylinder low register destination and the cylinder high register destination matching the predefined signature, return the second indication that the IDE drive is connected to the intelligent drive electronics channel."

Accordingly, *Hartung* and *Nakamura*, alone or in combination, do not teach, suggest, or describe each and every element of claims 5, 16, and 21. The applicants therefore submit that these claims are in condition for immediate allowance.

Claim 7

In the January 16, 2007 Office Action, claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over *Hartung* in view of *Nakamura*. With respect to claim 7, the Office Action contends that *Hartung* at col. 11, lines 42-45 discloses comparing "whether registers have a string of hexadecimal "F" values and if it [sic] doesn't, concluding that the IDE device is not connected." (Paper No. 20061228 at p. 7, no. 24). The applicants respectfully disagree.

The Office Action appears to be misreading *Hartung*, which teaches exactly the opposite of what the Office Action contends it teaches. *Hartung* at col. 11, lines 42-45 discloses that "[i]f nest driver 230 sees a string of hexadecimal "F" values on any of IDE buses 63, nest driver 230 realizes that no device is connected to such bus 63." In other words, the recited portion of *Hartung* teaches that if the value the nest driver sees on the IDE bus matches a string of hexadecimal "F" values, then the nest driver realizes that no device is connected to the bus. Thus, *Hartung* and *Nakamura*, alone or in combination, do not teach that "in response to the data read from cylinder low register destination and the cylinder high register destination not matching the predefined signature, returning that the IDE drive is not connected to an intelligent drive electronics channel," as claimed in claim 7.

Further, the arguments provided above for claim 5 apply as well to claim 7, which depends from claim 5. In particular, *Nakumura* provides no relevant disclosure concerning the cylinder high register destination and the cylinder register destination other than to mention that these registers exist. As discussed above with respect to claim 5, *Nakamura* does not teach or suggest "upon the data read from the status register destination having the first predefined value, reading a cylinder low register destination and a cylinder high register destination of the drive." It follows, therefore, that *Nakamura* does not teach or suggest "in response to the data read from cylinder low register destination and the cylinder high register destination not matching the predefined signature, returning that the IDE drive is not connected to an intelligent drive electronics channel," as claimed in claim 7.

Accordingly, *Hartung* and *Nakamura*, alone or in combination, do not teach, suggest, or describe each and every element of claim 7. The applicants therefore submit that this claim is in condition for immediate allowance.

Claim 8 and 18

In the January 16, 2007 Office Action, claims 8 and 18 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Hartung* in view of *Nakamura*. With respect to claims 8 and 18, the Office Action contends that *Nakamura* at col. 8, lines 52-64 discloses comparing "wherein the predefined signature comprises a second predefined value of the cylinder high register destination and a third predefined value of the cylinder low register destination." (Paper No. 20061228 at p. 8, no. 25). The recited portion of *Nakamura* is discussed in detail above with respect to claims 5, 16, and 21. In particular, *Nakumura* provides no relevant disclosure concerning the cylinder high register destination and the cylinder register destination other than to mention that they exist. *Nakamura* does not teach or suggest a second predefined value or a third predefined value of either register destination. In view of the above, it becomes clear that neither *Hartung* nor *Nakamura*, alone or in combination, teaches or suggests "wherein the predefined signature comprises a second predefined value of the cylinder high register destination and a third predefined value of the cylinder low register destination," as claimed in claims 8 and 18.

Accordingly, *Hartung* and *Nakamura*, alone or in combination, do not teach, suggest, or describe each and every element of claims 8 and 18. The applicants therefore submit that these claims are in condition for immediate allowance.

Conclusion

In view of the foregoing amendment and remarks, the applicants respectfully submit that all of the pending claims in the present application are in condition for allowance. Reconsideration and reexamination of the application and allowance of the claims at an early date is solicited. If the Examiner has any questions or comments concerning this matter, the Examiner is invited to contact the applicants' undersigned attorney at the number below.

Respectfully submitted,

HOPE BALDAUFF HARTMAN, LLC

/Steven Koon Hon Wong/

Date: April 16, 2007

"Steven" Koon Hon Wong
Reg. No. 48,459

Hope Baldauff Hartman, LLC
1720 Peachtree Street, N.W.
Suite 1010
Atlanta, Georgia 30309
Telephone: 404.815.1900